

WO 01/05966

CT/FR00/02076

- 42 -

CLAIMS

1. A nucleic acid encoding a peptide having the biological activity of sorbin, said nucleic acid comprising the nucleotide sequence selected from:

- a) the sequence SEQ ID No. 1;
- b) the sequence SEQ ID No. 3;
- c) the sequence SEQ ID No. 5;
- d) a nucleotide sequence homologous to the sequence SEQ ID No. 1, No. 3 or No. 5; and
- e) at least one nucleotide fragment of said sequence a), b), c) or d).

2. The nucleic acid as claimed in claim 1, said nucleic acid comprising a nucleotide sequence selected from the sequence SEQ ID No. 6 to 8 and a nucleotide sequence homologous to the sequence SEQ ID No. 6 to 8.

sub a1 3. A cloning and/or expression vector comprising a nucleotide sequence as defined in either of claims 1 and 2.

4. A host cell transformed with the vector as claimed in claim 3.

sub a2 5. A method for producing recombinant peptide having the biological activity of sorbin, said method comprising the steps consisting in:

- i) inserting a nucleotide sequence as defined in either of claims 1 or 2 into an expression vector, said nucleotide sequence being functionally linked with elements which allow the regulation of its expression;
- ii) transforming a host cell with the vector thus obtained;
- iii) culturing said host cell under conditions which allow the expression of said nucleotide sequence;
- iv) recovering the recombinant peptide expressed;

- 43 -

v) optionally purifying said peptide;
vi) optionally carrying out an amidation of the peptide produced.

5 6. An isolated recombinant peptide obtained using the method as claimed in claim 5.

7. A recombinant peptide having the biological activity of sorbin and comprising the amino acid
10 sequence selected from the sequences SEQ ID No. 2, SEQ ID No. 4 and SEQ ID No. 11.

Sub 03 8. A pharmaceutical composition comprising a nucleic acid as claimed in either of claims 1 and 2 or
15 a peptide as claimed in either of claims 6 and 7.

9. An oligonucleotide comprising the sequences SEQ ID No. 12 to SEQ ID No. 20 or the sequences complementary thereto.
20

10. A method for detecting the expression of sorbin in a cell or tissue sample, comprising the steps consisting in:

- preparing the RNA of said sample;
25 - bringing said RNA obtained into contact with a probe having a nucleotide sequence capable of hybridizing specifically with a nucleic acid encoding a peptide having the biological activity of sorbin, as defined in claim 1;
30 - detecting the presence of mRNA which hybridizes with this probe, indicating the expression of a peptide having the biological activity of sorbin in the sample.

35 11. A method for detecting the expression of sorbin in cells or a tissue by *in situ* hybridization, comprising the steps consisting in:

- bringing said cells or said tissue into contact with a probe having a nucleotide sequence

capable of hybridizing specifically with a nucleic acid encoding a peptide having the biological activity of sorbin, as defined in claim 1;

- 5 - detecting the presence of mRNA which hybridizes with this probe, indicating the expression of the peptide having the biological activity of sorbin.

12. A monoclonal or polyclonal antibody directed specifically against human sorbin, or a fragment of
10 said antibody capable of binding specifically to human sorbin.

13. A method for detecting and/or immuno-assaying human sorbin in a biological sample, in which:
15 i) said biological sample is brought into contact with an antibody as defined in claim 12, labeled in a detectable manner;
 ii) the formation of an antibody-human sorbin complex, indicating the presence of human sorbin in
20 said sample, is observed.

add